J. YOUNG

Electric Burglar Alarm.

No. 198,529. Patented Dec. 25, 1877.

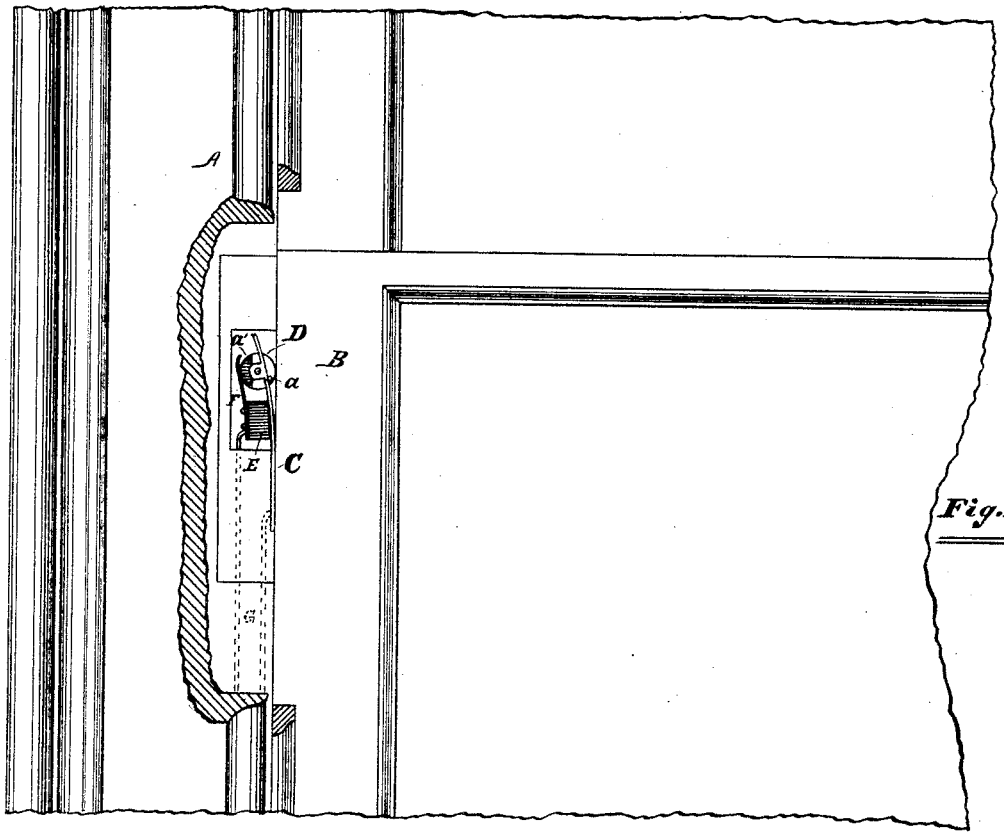

Fig. 1

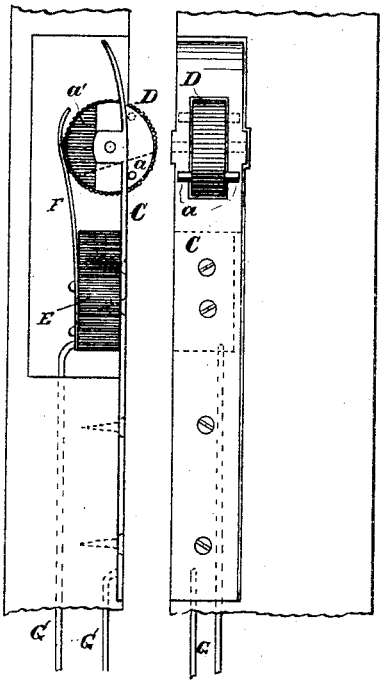

Fig. 2

Fig. 3

Attest:

F. F. Warner.

D. J. Mackellar

INVENTOR

John Young

UNITED STATES PATENT OFFICE.

JOHN YOUNG, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ELECTRIC BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **198,529**, dated December 25, 1877; application filed June 1, 1877.

To all whom it may concern:

Be it known that I, JOHN YOUNG, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric Burglar-Alarms, of which the following is a full, clear, and exact description, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part hereof, and in which—

Figure 1 is a side elevation of a window-frame provided with an alarm embodying my invention, a part of the frame being broken away; Fig. 2, a like representation of the alarm attachment, and Fig. 3 a like representation of the outer or exposed face of the attachment.

Like letters of reference indicate like parts.

The object of my invention is to make a burglar-alarm which will be simple in its construction and operation, and which may be easily so controlled as to be rendered silent when no danger is probable, and certain in its action when it is set to give a warning, all of which will hereinafter more fully appear.

In the drawing, A represents a window-frame, and B the lower sash. C is a flexible metallic strip, attached to the frame A at such a point, preferably, that the upper end of this spring will lie a little way below one of the upper corners of the lower sash, one side of the spring being presented toward the sash. D is a roller mounted on the upper part of the spring C. The roller D is arranged to present its periphery to the sash, and the periphery is, preferably, corrugated to insure the rotation of the roller, by reason of its contact with the sash, when the latter is either raised or lowered. The roller is provided with a small pin or stop, *a*, to limit its rotary movement, for the purpose hereinafter set forth.

One part of the periphery of the roller D consists of a non-conducting or insulating substance, preferably hard rubber, as represented at *a'*, and the remaining part should be a conductor of electricity.

E is an insulator attached to the spring D, and F is a spring applied to the part E, and arranged for contact with the periphery of the roller D. The springs C and F should be conductors. G is a circuit-wire extending to a battery, and operating, in connection with a gong or other alarm, in any well-known or desirable way. One end of this circuit is carried to the spring C, and the other to the spring F, in such a manner that these springs will complete the circuit when the conducting portion of the roller D is in contact with the spring F.

When the lower sash is closed, the roller D should occupy the position clearly shown in Fig. 2. The insulator *a'* is then in contact with the spring F. Consequently the circuit will be broken, and the alarm will be silent. The contact of the part *a'* with the spring is insured at this time, because a very slight downward movement of the sash will carry the stop *a* against the spring C, and limit the rotation of the roller, the stop and insulator *a'* being so arranged with relation to each other that the insulator *a'* will be in contact with the spring F when the stop is carried downward and into contact with the spring C. A slight up movement of the sash closes the circuit by carrying the insulator *a'* from the spring F and bringing the conducting portion of the roller D in contact therewith. The stop *a*, in being thus carried upward, strikes the spring C in time to stop the rotation of the roller D before the conducting portion of the roller leaves the spring F, thus keeping the circuit closed. The sash, however, may be moved in either direction after the rotation of the roller ceases; but the alarm is always sounded if the sash be moved only a slight distance upward. If the sash be raised sufficiently for ventilation, and there be no present danger of burglars, it would be desirable to silence the alarm. This may be accomplished by raising the sash a little way above the desired height, and then drawing it down sufficiently to break the circuit. If the sash be now again raised slightly, the alarm will be sounded. Hence the window may be left open with comparative safety while the alarm is silent. In other words, the sash may be raised to any height, and the alarm silenced at that height, and set to strike in case the window be further raised.

The friction between the roller D and the spring F keeps the surfaces bright and clean, so that the circuit will not be liable to become

broken by reason of the accumulation of foreign and non-conducting particles between the parts, which should be in contact, in order to comple the circuit.

It will be perceived from the foregoing description that the alarm may be applied to operate in connection with either sash, and that wherever the parts of the alarm now described are arranged the window-frame should be mortised to receive them.

It is not essential that all the details of construction and arrangement of parts herein particularly described should be observed in making the parts and applying them to use, as some modifications within the scope of my invention will suggest themselves to those familiar with the art, after having been thus informed of the object and nature of my invention, and of the means employed in reducing it to practice.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An electric burglar-alarm, the said alarm embodying the combination, substantially as described, of a roller placed in the circuit, and arranged for rotation by the sash, an insulator arranged for intermittent interposition in the circuit during the rotation of the roller, and a stop placed for limiting the rotation of the roller, for the purpose set forth.

2. In an electric burglar-alarm, the roller D, arranged in the circuit, and having a periphery consisting partly of an insulating substance, *a'*, and partly of a conducting-surface, in combination with a stop for limiting the rotation of the roller, substantially as and for the purposes specified.

JOHN YOUNG.

Witnesses:
F. F. WARNER,
D. J. MACKELLAR.